UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,316	09/18/2006	Yvonne Heischkel	295796US0PCT	7016

22850 7590 11/18/2009

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
BALASUBRAMANIAN, VENKATARAMAN	
ART UNIT	PAPER NUMBER
1624	

NOTIFICATION DATE	DELIVERY MODE
11/18/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/593,316	HEISCHKEL ET AL.	
	Examiner	Art Unit	
	/Venkataraman Balasubramanian/	1624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/18/2006, 07/02/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, claims 1-3 and 7-11 drawn to triazine compound of formula I, II, III, V and VI and process of making, composition and method of use, in the reply filed on 07/10/2009 is acknowledged. Upon further consideration , it was noted that claims 4 and 5 are product by process claims. Since a product is a product irrespective process of making it, the restriction requirement made in the previous office action is hereby withdrawn. Claims 1-11 are under consideration.

Information Disclosure Statement

References cited in the Information Disclosure Statements, filed on 9/18/2006 & 07/02/2009, are made of record.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Recitation of "1, 3, 5-triazine carbamates or 1,3,5-triazine urea of formula (I)" in claim1 and a similar recitation in claims 2-8 , renders these claims and their dependent and claims indefinite because as recited it limits the formula that follows to 1,3,5-triazine urea.

2. Claims 2-5 are improper claims as independent claims 2-4 depend on claim 1 for variable choices.

3. Claim 4 is indefinite as it is not clear what triazine carbamate and triazine urea is embraced in the claim. As recited it is product by process claim and since the structure of triazine carbamate and triazine urea are not shown, it is not clear what is structural make-up of the triazine is. For search and examination purpose scope of claim 1 and 2 is used.

5. Independent process claims 7 and 8 are improper claims as they depend on claim 6 for variable choices.

6. Dependent claims 9 and 11 are indefinite as it recites formula I, II, III, V and VI which is not recited in claim 4 on which it is dependent. Hence, the chemical nature of the coating composition recited in claim 9 and the method of use recited in claim 11 remains unknown.

7. Claims 10 and 11 provide for the use of compound of formula I, II, III, V and VI but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for process for making triazine carbamate of formula I or formula II and III wherein the groups X^1-R^1-O-Z^1, X^2-R^2-O-Z^2 and X^3-R^3-O-Z^2 are same, by reacting triazine carbamate of formula IV wherein R^4, R^5 and R^6 are same with a compound containing a hydroxyl or amino group and at least one vinyl, methacryloyl or acryloyl group, does not reasonably provide enablement for process for making triazine carbamate of formula I, formula II or formula III wherein the groups X^1-R^1-O-Z^1, X^2-R^2-O-Z^2 and X^3-R^3-O-Z^2 are not same by reacting triazine carbamate of formula II, wherein the groups R^4 and R^5 and R^6 are not the same with a compound containing a hydroxyl or amino group and at least one vinyl, methacryloyl or acryloyl group as embraced in claim language. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and hence use the invention commensurate in scope with these claims.

In evaluating the enablement question, following factors are considered. Note In re Wands, 8 USPQ2d 1400 and Ex parte Forman, 230 USPQ 546. The factors include: 1) The nature of the invention, 2) the state of the prior art, 3) the predictability or lack thereof in the art, 4) the amount of direction or guidance present, 5) the presence or absence of working examples, 6) the breadth of the claims, and 7) the quantity of experimentation needed.

1. The nature of the invention and the state of the prior art:

The instant invention is drawn to triazine carbamate and triazine urea compound generically embraced in formula I , a composition, method of use and a process of

making compound of formula I by reacting of compound of formula IV with a compound containing a hydroxyl or amino group and at least one vinyl, methacryloyl or acryloyl group. Specification, while enabled for making compound of formula I by reacting compound of formula IV with process for making triazine carbamate of formula I or formula II and III wherein the groups X^1-R^1-O-Z^1, X^2-R^2-O-Z^2 and X^3-R^3-O-Z^2 are same, by reacting triazine carbamate of formula IV wherein R^4, R^5 and R^6 are same with a compound containing a hydroxyl or amino group and at least one vinyl, methacryloyl or acryloyl group, does not reasonably provide enablement for process for making triazine carbamate of formula I, formula II or formula III wherein the groups X^1-R^1-O-Z^1, X^2-R^2-O-Z^2 and X^3-R^3-O-Z^2 are not same by reacting triazine carbamate of formula II, wherein the groups R^4 and R^5 and R^6 are not the same with a compound containing a hydroxyl or amino group and at least one vinyl, methacryloyl or acryloyl group as embraced in claim language.

As recited, the process of claim 6 and 7 implies that the reaction would occur selectively leading to triazine carbamate of formula I, II and III or triazine urea of formula I,II and III by reacting triazine carbamate of formula IV with a compound containing a hydroxyl or amino group and at least one vinyl, methacryloyl or acryloyl group, for which there is no enabling disclosure. Although it would be true when X^1-R^1-O-Z^1, X^2-R^2-O-Z^2 and X^3-R^3-O-Z^2 and R^4, R^5 and R^6 groups are same, when they are different , the triazine of formula IV, which has three different carbamate groups, can react with either any one of the alcohol, or any one of amine groups to give products which are not same as formula II or formula III. For example, it is not clear how one

would be able to arrive at product of formula II selectively by performing said reaction with combined X^1-R^1-O-Z^1 and X^2-R^2-O-Z^2 as implied in the claim language 6. A mixture of products would result and the product would not necessarily be of formula II. Even one were to do o step wise reaction first with X^1-R^1-O-Z^1 and then X^2-R^2-O-Z^2 there is no reason to believe that all which would not give triazine carbamate of formula II with desired R^4-O group. The product can also bear R^5-O and R^6-O. Similarly, such reaction either stepwise or in combination would result in mixture of products bearing X^1-R^1-O-Z^1 or X^2-R^2-O-Z^2 and as well as R^4-O R^5-O and R^6-O bearing triazine. Furthermore, once a single X^1-R^1-O-Z^1, X^2-R^2-O-Z^2 or X^3-R^3-O-Z^2 incorporated the product thus formed can undergo transesterifation and amidation by displacing the carbamate bond NHCOX and O-CO- of the acrylate. Specification has no teaching or suggestion as to how to perform said process as embraced in the instant claims to arrive at compound of formula I, II and III.

2. The predictability or lack thereof in the art:

Hence the process as applied to the above-mentioned compounds claimed by the applicant is not an art-recognized process and hence there should be adequate enabling disclosure in the specification with working example(s).

3. The amount of direction or guidance present:

Example illustrated in the experimental section or written description offers no guidance or teachings as to how perform the process of making triazine of formula I, II and III with the given choices of variable groups and given choices of alcohols and amines as embraced in the instant invention.

4. The presence or absence of working examples:

Although example 1 shows the process for making triazine carbamate of formula I, it is limited to the process wherein X^1-R^1-O-Z^1, X^2-R^2-O-Z^2 and X^3-R^3-O-Z^2 are same and do not include variable choices for X^1-R^1-O-Z^1, X^2-R^2-O-Z^2 and X^3-R^3-O-Z^2 alcohols or amines in starting material and final product bearing different X^1-R^1-O-Z^1, X^2-R^2-O-Z^2 and X^3-R^3-O-Z^2 and different R^4 and R^5 and R^6

5. The breadth of the claims:

Specification has no support, as noted above, for making compound of formula I , II and III reacting compound of formula IV with various alcohols and amines as embraced in R^1, R^2, R^3, X^1, X^2, X^3, Z^1, Z^2 and Z^3 choices. There is no support for the process generically embraced in claims 6 and 7 would lead to claimed compound of formula I, II and III.

6. The quantity of experimentation needed:

The quantity of experimentation needed would be an undue burden on skilled art in the chemical art since there is inadequate guidance given to the skilled artisan for the many reasons stated above. Even with the undue burden of experimentation, there is no guarantee that one would get the product of desired structure, namely compound of formula II embraced in the instant claims 1-11.

Also, note MPEP 2164.08(b) which states that claims that read on "... significant numbers of inoperative embodiments would render claims nonenabled when the specification does not clearly identify the operative embodiments and undue

experimentation is involved in determining those that are operative.". Clearly that is the case here.

Thus, factors such as "sufficient working examples", the "level of skill in the art and predictability, etc. have been demonstrated to be sufficiently lacking in the case for the instant claims.

MPEP 2164.01(a) states, "A conclusion of lack of enablement means that, based on the evidence regarding each of the above factors, the specification, at the time the application was filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation. In re Wright, 999 F.2d 1557,1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)."

That conclusion is clearly justified here. Thus, undue experimentation will be required to make Applicants' invention.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 10 and 11 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Double Patenting

Claim 4 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 1. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim 4 is a product by process claim wherein the product is claimed in claim 1. A product is a product irrespective of how it is made. The processes attributes are independent limitation and do not necessarily define the structural make-up of the product. The claim 4 is not rendered patentably distinct by a process directed to its preparation even though the process may be patentable. Note "Determination of patentability in "product by process" claims is based on product itself, even though such claims are limited and defined by process, and thus product in such claim is unpatentable if it is same as, or obvious from, product of prior art, even if prior product was made by different process" In re Thorpe 227 USPQ 964. Also note In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972), the court held that "The lack of physical description in a product by process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established."

Hence, if claim 1 were found allowable, claim 4 will be rejected and its dependent claims 5, 9 and 11 will be objected .

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 2 and 4-7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 21-35 of copending Application No. 10/593,308. Although the conflicting claims are not identical, they are not patentably distinct from each other because the triazine carbamates and triazine urea and the process of making them embraced in claims are obvious over the process making triazine carbamate and triazine urea embraced in the earlier filed copending application 10/593,308. More specifically, instant claims 1, 2, 4 and 5 recite triazine carbamate and triazine urea while the process claims 21-35 of earlier filed copending application recites a process of making triazine carbamate and triazine urea which include instant triazine carbamate and triazine urea. One trained in the art in practicing the process of claim 21-35 would make the instant triazine carbamate and

triazine urea. See claim 21-35, note the triazine of formula (I) with various varible groups includes instant triazine carbamate and triazine urea. Furthermore, the process of claims 21-35 includes instant process of transesterifaction and amidation. Hence, it would be obvious to one trained in the art to practice the process with various choices of variables and make triazine carbamate and ureas of formula (I) including instant compounds and expect them to have the use taught therein.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication from the examiner should be addressed to Venkataraman Balasubramanian (Bala) whose telephone number is (571) 272-0662. The examiner can normally be reached on Monday through Thursday from 8.00 AM to 6.00 PM. The Supervisory Patent Examiner (SPE) of the art unit 1624 is James O. Wilson, whose telephone number is 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned (571) 273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAG. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-2 17-9197 (toll-free).

/Venkataraman Balasubramanian/

Primary Examiner, Art Unit 1624